

Case 2967

***Chaetodacus latifrons* Hendel, 1915 (currently *Bactrocera latifrons*; Insecta, Diptera): proposed precedence of the specific name over that of *Dacus parvulus* Hendel, 1912**

I.M. White

*International Institute of Entomology, c/o Department of Entomology,
The Natural History Museum, Cromwell Road, London SW7 5BD, U.K.*

N.J. Liquido

*United States Department of Agriculture, Agricultural Research Service,
P.O. Box 4459, Hilo, Hawaii 96720, U.S.A.*

Abstract. The purpose of this application is to conserve the specific name of *Bactrocera latifrons* (Hendel, 1915) (family TEPHRITIDAE) for the *Solanum* fruit fly by giving it precedence over that of *Dacus parvulus* Hendel, 1912. The name *latifrons* has been used widely and consistently in the literature, whereas *parvulus* has been used only three times since publication (twice, in 1950 and 1992, for misidentifications). The species is a major pest of peppers (*Capsicum annuum*) and other Solanaceae in south-east Asia. It has been introduced into the Hawaiian islands during the past century where it is also a serious pest. A lectotype for *C. latifrons* is designated.

Keywords. Nomenclature; taxonomy; Diptera; fruit flies; *Bactrocera latifrons*; south-east Asia; Hawaiian islands.

1. Hendel (1912, p. 21) described *Dacus parvulus* based on a series of five specimens from Kanshirei, Formosa (now Taiwan). There is a single male (labelled type) and two females (labelled cotype) in the Deutsches Entomologisches Institut (DEI), Eberswalde, Germany, and two males (labelled cotype) in the Naturhistorisches Museum (NHMV), Vienna, Austria. The specimens were labelled as type and cotypes by Prof D.E. Hardy but no lectotype designation was made (see Hardy, 1968, p. 113). All the specimens have the status of syntypes and have been examined by one of us (I.M.W.). These specimens fall within the known range of variation of *Chaetodacus latifrons* Hendel, 1915, a species described from Tainan (Taiwan) and elsewhere (see para. 2 below), although they are smaller than average. The identity of the females is further confirmed in that they have their aculeus tips exposed showing the unusual tip shape distinctive of *C. latifrons*; the name *parvulus* must therefore be considered a senior subjective synonym of *latifrons*. A female from Tainan (leg. H. Sauter, May 1912), labelled as *parvulus* (NHMV) and assumed to be determined as such by Hendel, also has an exposed aculeus and is clearly *latifrons*.

2. Hendel (1915, p. 425) described *Chaetodacus latifrons*, based on a series of six specimens from Taiwan (Tainan, Takao and Suisharyo) and Singapore. One of us (I.M.W.) has examined a syntype male (labelled paratype) from Tainan (leg.

H. Sauter, March 1912), now in the Natural History Museum (NHM), London, and has seen other syntypes on earlier occasions: one male from Tainan (NHMV, labelled cotype by Hardy, 1968, p. 113) and four specimens in the Termesztudományi Múzeum (TMB), Budapest, Hungary (sexes not noted at the time; 1986 visit). There is no doubt that these specimens represent the current understanding of the major pest of peppers (*Capsicum annuum*) and other Solanaceae in south-east Asia, which has also become adventive in the Hawaiian Islands. The name *latifrons* has been widely used for the species which is commonly known as the *Solanum* or Malaysian fruit fly. There has been no previous designation of a lectotype and we now designate the male from Tainan in the Natural History Museum, London as such. It is denoted by a standard NHM purple-edged lectotype label.

3. Shiraki (1933, p. 56, fig. 17) described *Chaetodacus antennalis*, based on a series of specimens of unspecified number reared from *Solanum xanthocarpum* from Tainan, Taiwan. This nominal species was placed in synonymy with *Dacus parvulus* by Hardy (1973, p. 49), with which it compared in its small size, and serves to confirm that these small Taiwanese specimens identified as *parvulus* are probably also Solanaceae-associated, in common with more typical *latifrons*.

4. The specific name of *Bactrocera latifrons* has been widely used. A recent review of fruit fly pests (White & Elson-Harris, 1992), for example, gives 13 references to the species using this name (or *Dacus latifrons*) and could have given many more, whereas *parvulus* is only mentioned in a taxonomic catalogue (see Hardy, 1977, p. 51). There is a single record of *parvulus* from India (see Philip, 1950) that appears to have been based on a misidentification of another species (see White & Elson-Harris, 1992). A third use (Tseng, Chen & Chu, 1992, p. 37, figs. 89–97 on p. 39, pl. 2, figs. 7, 28 and 29) of the name *parvulus* was also based on a misidentification. All retrievable biological information is accessible using the name *latifrons* and examples of references relevant to programs of fruit fly control, monitoring and survey in Asia and Hawaii are as follows: Hardy (1973; identification in Thailand), Wharton & Gilstrap (1983; parasitoids), Vargas & Nishida (1985; biology and ecology), Vargas & Mitchell (1987; rearing), and Liquido, Harris & Dekker (1994; ecology). A further 17 references demonstrating the usage of the name *latifrons*, dating from 1951 to 1995 and involving a further 27 authors, are held by the Commission Secretariat.

5. The newly developed male lure that is being used in survey and detection programs in the U.S.A. is called 'latilure', named after the specific name of *Bactrocera latifrons*. The emergency action plan developed by the United States Department of Agriculture and the Departments of Agriculture of the States of Hawaii, California and Florida, is titled 'Action Plan: *Bactrocera latifrons* (Hendel)'. That action plan will serve as eradication guidelines in the event of colonizing populations of *latifrons* being detected in mainland U.S.A.

6. There is much evidence for a prima facie case for the conservation of the specific name of *Chaetodacus latifrons* Hendel, 1915. The syntypes of *Dacus parvulus*, which are the only known specimens, are rather small but are nonetheless within the range of *latifrons*. However, with better knowledge of the genetics of *Solanum* fruit flies on Taiwan there is a remote possibility that it may become apparent that there are two taxa and both names will be required. We therefore propose that the name *latifrons* be given precedence over *parvulus*. Approval of the application by the Commission

will allow *latifrons* to continue as the valid name for the species if this is not taxonomically divided; if differentiated in the future, *parvulus* remains available for use as a specific or subspecific name.

7. The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to use its plenary powers to rule that the specific name *latifrons* Hendel, 1915, as published in the binomen *Chaetodacus latifrons*, is to be given precedence over *parvulus* Hendel, 1912, as published in the binomen *Dacus parvulus*;
- (2) to place on the Official List of Specific Names in Zoology the following names:
 - (a) *latifrons* Hendel, 1915, as published in the binomen *Chaetodacus latifrons* and as defined by the lectotype designated in para. 2 above, with the endorsement that it is to be given precedence over *parvulus* Hendel, 1912, as published in the binomen *Dacus parvulus*, whenever these names are considered to be synonyms;
 - (b) *parvulus* Hendel, 1912, as published in the binomen *Dacus parvulus*, with the endorsement that it is not to be given priority over *latifrons* Hendel, 1915, as published in the binomen *Chaetodacus latifrons*, whenever these names are considered to be synonyms.

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